B. Amendment to the Claims

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

1-30. (Cancelled)

31. (Currently Amended): A head substrate of a printing head capable of being detachably mounted on a printer main body, comprising:

plural external connection terminals for externally entering various signals and electric power;

recording means for recording according to the various signals;

data memory means ~~for executing data writing and data readout~~ to which data is written and from which data is read;

memory access means for executing the data writing into said data memory means in response to ~~the various~~ signals entered via the external connection terminals and the electric power and for executing the data readout ~~corresponding~~ in response to ~~the various~~ other signals entered via the external connection terminals; and

writing inhibition means for permanently disabling the data writing into said data memory means by said memory access means,

wherein said writing inhibition means is adapted for shutting off a supply of the electric power for data writing from said external connection terminals to said memory access means.

32. (Cancelled)

33. (Previously Presented): A head substrate according to Claim 31, further comprising:

common terminal wiring means for connecting said memory access means and said recording means to a common external connection terminal.

34. (Previously Presented): A head substrate according to Claim 31, wherein:

said external connection terminals receive, at one end thereof, from the exterior, an access permission signal for permitting the data writing; and

said memory access means executes data writing into said data memory means when the access permission signal is externally entered from said external connection terminal.

35. (Original): A head substrate according to Claim 31, wherein:

said memory access means writes data of plural kinds in succession in said data memory means; and

said writing inhibition means individually disables data overwriting for the data of the plural kinds written in succession in said data memory means by said memory access means.

36. (Previously Presented): A head substrate according to Claim 31, wherein:

said plural external connection terminals externally receive, as the various signals, a binary logic signal corresponding to whether or not to execute the recording, a recording image signal and a clock signal;

said recording means is adapted for executing a recording operation by externally receiving the recording image signal and the clock signal when the binary logic signal externally entered from the external connection terminals is in a first state; and

said memory access means is adapted for executing at least either of data writing into or data readout from said data memory means at a timing corresponding to the clock signal, when the binary logic signal externally entered into said external connection terminal is in a second state.

37. (Previously Presented): A head substrate according to Claim 31, wherein:

said recording means is adapted for recording based on the recording image signal serially entered into a specified one of said external connection terminals; and

said memory access means is adapted for writing data, serially entered from the specified one of said external connection terminals, into said data memory means, and serially outputting the data read from said data memory means to the specified one of said external connection terminals.

38. (Previously Presented): A head substrate according to Claim 31, wherein:

said recording means is adapted for recording based on the recording image signal parallel entered into specified ones of said external connection terminals; and

said memory access means is adapted for writing data, parallel entered from the specified plurality of said external connection terminals that parallel receive the recording image signal, into said data memory means, and for serially outputting the data, read from said data memory means, to the specified plurality of said

external connection terminals that parallel receive the recording image signal.

39. (Original): A head substrate according to Claim 36, wherein the clock signal for executing the recording operation and the clock signal supplied to said memory access means are used in common.

40. (Previously Presented): A printing head capable of being detachably mounted in a printer main body, comprising a head substrate according to Claim 31.

41. (Previously Presented): A printing head according to Claim 40, wherein said recording means includes a recording element for recording.

42. (Previously Presented): A printing head according to Claim 41, wherein the recording element is a heat generating element.

43. (Previously Presented): A printing head according to Claim 42, wherein the recording is executed by discharging ink by the heat of the heat generating element.

44. (Previously Presented): A printing head capable of being detachably mounted in a printer main body, comprising a head substrate according to Claim 36.

45. (Previously Presented): A printing head capable of being detachably mounted in a printer main body, comprising a head substrate according to Claim 37.

46. (Previously Presented): A printing head capable of being detachably mounted in a printer main body, comprising a head substrate according to Claim 38.

47. (Previously Presented): A printing head capable of being detachably mounted on a printer main body, comprising:

plural external connection terminals for externally entering various signals and electric power;

recording means for recording according to the various signals;

data memory means capable of data readout;

memory access means for reading data stored in said data memory means;

wherein said memory access means is rendered, by writing inhibition means, permanently incapable of data writing into said data memory means, and

wherein said writing inhibition means is adapted for shutting off a supply of the electric power for data writing from said external connection terminals to said memory access means.

48. (Previously Presented): A printing head according to Claim 47, wherein said recording means includes a recording element for recording.

49. (Previously Presented): A printing head according to Claim 48, wherein the recording element is a heat generating element.

50. (Previously Presented): A printing head according to Claim 49, wherein the recording is executed by discharging ink by the heat of the heat generating

element.

51. (Currently Amended): A method for producing a printing head capable of being detachably mounted on a printer main body, comprising:

a step of preparing a head substrate including plural external connection terminals for externally entering various signals and electric power;

a recording step, of recording according to the various signals;

a data memory step, of executing data writing and data readout;

a memory access step, of executing the data writing in said data memory step in response to ~~the various~~ signals entered via the external connection terminals and electric power and of executing the data readout ~~corresponding~~ in response to ~~the various~~ other signals entered via the external connection terminals; and

a writing inhibition step, of permanently disabling the data writing from said data memory step by said memory access step,

wherein said writing inhibition step includes shutting off a supply of the electric power for data writing from the external connection terminals for use in said memory access step.

52-54. (Cancelled)

55. (Currently Amended): A method for producing a printing head capable of being detachably mounted on a printer main body, comprising:

a step of preparing the printing head including plural external connection terminals for externally entering various signals and electric power;

a recording step, of recording according to the various signals;

a data memory step, of executing data writing and data readout;

a memory access step, of executing the data writing in said data memory step in response to ~~the various~~ signals entered via the external connection terminals and the electric power and of executing the data readout ~~corresponding~~ in response to ~~the various~~ other signals entered via the external connection terminals; and

a writing inhibition step, of permanently disabling the data writing into said data memory means in said memory access step,

wherein said writing inhibition step includes shutting off a supply of the electric power for data writing from the external connection terminals for use in said memory access step.

56. (Cancelled)

57. (Previously Presented): A method for producing the head substrate according to Claim 55, wherein:

said writing inhibition step includes cutting off a signal wiring for connecting the external connection terminals, and externally receiving an access permission signal for permitting the data writing, and then is followed by said memory access step.

58. (Previously Presented): A method for producing the printing head according to Claim 55, wherein:

said data memory step includes writing data of plural kinds in succession in said data memory step by performance of said memory access step; and

said writing inhibition step includes individually disabling data overwriting for the data of the plural kinds written in succession in said data memory step by said memory access step.

59. (Previously Presented): A printing apparatus comprising:

a printing head according to Claim 40;

input means for individually transmitting various signals respectively to a plurality of said external connection terminals of the printing head, thereby causing said recording means to execute a recording operation; and

memory readout means for transmitting various signals to said plural external connection terminals of the printing head, thereby causing said memory access means to execute the data readout.

60. (Previously Presented): A printing apparatus comprising:

a printing head according to Claim 45;

input means for individually transmitting various signals respectively to a plurality of said external connection terminals of the printing head, thereby causing said recording means to execute a recording operation; and

memory readout means for transmitting various signals to said plural external connection terminals of the printing head, thereby causing said memory access means to execute the data readout.

61. (Previously Presented): A printing apparatus comprising:

a printing head according to Claim 46;

input means for individually transmitting various signals

respectively to a plurality of said external connection terminals of the printing head, thereby causing said recording means to execute a recording operation; and

memory readout means for transmitting various signals to said plural external connection terminals of the printing head, thereby causing said memory access means to execute the data readout.

62. (Previously Presented): A printing apparatus comprising:

a printing head according to Claim 44;

wherein said recording input means is adapted for individually transmitting a binary logic signal of a second state and various signals such as a recording image signal and a recording clock signal respectively to a plurality of said external connection terminals of the printing head; and

said memory readout means is adapted for transmitting the binary logic signal of the second state and the memory clock signal, etc. to the plurality of said external connection terminals of the printing head.

63-64. (Cancelled)

65. (Previously Presented): A printing apparatus comprising:

a printing head according to Claim 47; and

means for driving the printing head.

66. (Previously Presented): A printing apparatus according to Claim 65, wherein said recording means includes a recording element for recording.

67. (Previously Presented): A printing apparatus according to Claim 66, wherein the recording element is a heat generating element and ink is discharged by the heat generated by the heat generating element.

68. (Previously Presented): A head substrate according to Claim 31, wherein the electric power is also used for driving said recording means.

69. (Previously Presented): A printing head according to Claim 47, wherein the electric power is also used for driving said recording means.

70. (Previously Presented): A head substrate according to Claim 31, wherein connection terminals to which the electric power is applied are different from connection terminals to which electric power driving the recording means is applied.

71. (Previously Presented): A printing head according to Claim 47, wherein connection terminals to which the electric power is applied are different from connection terminals to which electric power for driving the recording means is applied.

72. (Previously Presented): A head substrate according to Claim 31, wherein the shutting off of the supply of the electric power is performed by cutting electric power wiring.

73. (Previously Presented): A printing head according to Claim 47, wherein the shutting off of the supply of the electric power is performed by cutting electric power wiring.

74. (Previously Presented): A method according to Claim 51, wherein the shutting off of the supply of the electric power is performed by cutting electric power wiring.

75. (Previously Presented): A method according to Claim 55, wherein the shutting off of the supply of the electric power is performed by cutting electric power wiring.

76. (New): A head substrate of a printing head capable of being detachably mounted on a printer main body, comprising:

recording means for recording;

data memory means to which data is written and from which data is read;

memory access means for writing data into said data memory means in response to electric power and a signal and for reading out data from said data memory means in response to another signal; and

writing inhibition means for permanently disabling the data writing into said data memory means by said memory access means,

wherein said writing inhibition means is adapted for shutting off a supply of the electric power for data writing to said memory access means.

77. (New): A printing head capable of being detachably mounted on a printer main body, comprising:

recording means for recording;

data memory means to which data is written and from which data is

read;

memory access means for writing data into said data memory means in response to electric power and a signal and for reading out data from said data memory means in response to another signal; and

writing inhibition means for permanently disabling the data writing into said data memory means by said memory access means,

wherein said writing inhibition means is adapted for shutting off a supply of the electric power for data writing to said memory access means.